

# Claims

[c1] I claim:

1. A distributed object messaging system comprising of :  
a process of distributed object synchronization across a  
network node tree in which the root node and the branch  
nodes act in combination as a centralized server with  
a) a network node tree where a root node computer at  
the top of the network node tree has a plurality of  
branch node computers maintaining a network connec-  
tion to it at any given time,  
b) in which each branch node computer may have one or  
more branch node computers maintaining a network  
connection to it at any given time,  
c) a set of distributable objects, whose origination re-  
sides on the root node computer, are cloned and trans-  
mitted across the network connection to descendant  
branch node computers,  
d) where if a change is made to the distributable object  
on the root node computer, that change is redispached  
across the network connection to the distributable object  
residing on each descendant branch node computer,  
e) with a security controller in said root node computer  
environment,

- f) with said security controller creating a security controller clone,
- g) with said security controller clone creating an authentication interface in the connecting computer,
- h) with said authentication interface creating authentication data,
- i) with said authentication data is transmitted to the root node,
- j) with said root node using the authentication data to authenticate the connecting computer,
- k) where if validated the root node returns registration data to the branch node, and
- l) where a connection tree manager controls the placement of the connecting computer on the network node tree.

[c2] 2. The system, as set forth in claim 1, wherein:  
said branch nodes and said root nodes may have leaf  
nodes where said leaf nodes treated like branch nodes  
by the system.

[c3] 3. The system, as set forth in claim 1, wherein:  
a new peer connecting to an already existing peer on the  
network can download the synchronized state of these  
data objects without having to get said data from the  
original host.

- [c4] 4. The system, as set forth in claim 1, where a connection tree manager instructs all nodes where to connect to the network.
- [c5] 5. The system, as set forth in claim 2, wherein: a change made to the state of a distributable object on a root node computer, said change is made to each of the distributable objects on all the descendant branch nodes and all of the descendant leaf nodes.
- [c6] 6. The system, as set forth in claim 1, wherein: a root server is created and said root server forms an I/O channel through a TCP/IP socket.
- [c7] 7. A distributed object messaging system comprising of : a process of distributed object synchronization across a network node tree in which the root node and the branch nodes act in combination as a centralized server with
  - a) a network node tree where a root node computer at the top of the network node tree has a plurality of branch node computers maintaining a network connection to it at any given time,
  - b) in which each branch node computer may have one or more branch node computers maintaining a network connection to it at any given time,
  - c) a set of distributable objects, whose origination resides on the root node computer, are cloned and trans-

mitted across the network connection to descendant branch node computers,

- d) where if a change is made to the distributable object on the root node computer, that change is redispersed across the network connection to the distributable object residing on each descendant branch node computer,
- e) with a security controller in said root node computer environment,
- f) with said security controller creating a security controller clone,
- g) with said security controller clone creating an authentication interface in the connecting computer,
- h) with said authentication interface creating authentication data,
- i) with said authentication data is transmitted to the root node,
- j) with said root node using the authentication data to authenticate the connecting computer,
- k) where if validated the root node returns registration data to the branch node, and
- l) where a connection tree manager controls the placement of the connecting computer on the network node tree.

[c8] 8. The system, as set forth in claim 7, wherein:  
said branch nodes and said root nodes may have leaf

nodes where said leaf nodes treated like branch nodes by the system.

- [c9] 9. The system, as set forth in claim 7, wherein:  
a new peer connecting to an already existing peer on the network can download the synchronized state of these data objects without having to get said data from the original host and where a connection tree manager instructs all nodes where to connect to the network.
- [c10] 10. The system, as set forth in claim 7, wherein:  
a root server is created and said root server forms an I/O channel through a TCP/IP socket.